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Slips and Trips on Roads, Paths, and Floors

During a recent Earthquake Evacuation exercise, a worker slipped while walking along a narrow sloped pathway, twisting the right foot. The worker later reported to the Health Services Department where a broken bone was diagnosed.

In 2005, 14 percent of recordable injuries at LLNL were due to falls by LLNL workers. Some of the causes of injury were:

- Indoor cords. Two workers were injured in separate accidents after becoming entangled in cables hanging down from computer workstations.
- Indoor wet surface. Two workers were injured in separate accidents when they slipped on floors with standing water but no cautionary signage. Another worker was injured while wearing plastic booties and walking on a wet floor.
- Outdoor slippery surface. One worker slipped on wet asphalt, a second slipped on ice, and a third slipped on foliage that had fallen onto a walkway.
- Indoor surface. One worker slipped on stairs without a slip-resistant coating, a second slipped on a plastic office floor mat, a third worker's shoe caught on the carpet.
- Outdoor object. One worker tripped on a pinecone, a second tripped on an unmarked ramp in a parking lot, a third worker tripped on exposed roots and branches in a planter bed, a fourth stepped into a section of road with a subsiding asphalt patch, a fifth tripped on an electrical cord stretched across a sidewalk, and eight workers tripped on curbs/parking berms at various locations onsite.
- Indoor object. Two workers were injured when they tripped on loose doorway thresholds, and one worker tripped over a briefcase they'd left on the floor.

Of the 2005 reportable injuries, three resulted in fractures:

- A worker's ankle twisted when the worker stepped into a depressed area of the asphalt.
- A worker's rubber-soled shoes caught on the carpet and the worker fell, fracturing the hand/wrist in two places.
- A worker stepped off an elevated sidewalk onto the parking lot pavement and tripped, fracturing the ankle.

Workers should eliminate or report hazards when they see them. Stepping over spilled water instead of cleaning it up, or leaving a briefcase or dropped pencil on the floor "just for a moment," can result in a slipping/tripping accident. Even a document that has been slipped under a door can be a slipping hazard, especially when it's placed inside a plastic folder.

Analysis

- Any painted or applied road marking can be a slipping hazard when wet.
- In 2005, slips/trips or falls were the third most frequent injuries at LLNL.
- In 2005, fall injuries resulted in 96 lost workdays and 262 restricted workdays for LLNL workers (including subcontractors).
- Many of these accidents could have been prevented by workers paying attention to their surroundings, and reporting slip/trip hazards to their facility point of contact (FPOC).

Recommended Actions for LLNL Employees

For workers

1. Notify the FPOC of uneven walking surfaces and other slip/trip hazards in your area.
2. Use caution when crossing wet or damp surfaces. Even normally abrasive, non-slip surfaces such as road markings, painted curbs, and asphalt can become slippery/slick when wet.
3. Factor weather conditions that can affect walking into job planning.
4. Keep aisles, stairs, rooms, and walkways free of clutter and tripping hazards.
5. Store briefcases, binders, boxes, and other objects properly; don't leave them on the floor.
6. Secure dangling cords, especially from computer workstations, that could become trip hazards. The cords from temporarily installed electrical items such as projectors and heaters can become trip hazards.
7. Put a note on the door to alert an absent worker that material has been slipped under the door.
8. Clean up spills immediately.

For management and FPOCs:

1. Repair uneven or damaged walking surfaces and remove accumulated debris. Mark with signs or abrasive paint, or barricade until repairs can be made.
2. Use non-skid waxes and surfaces coated with grit for stairs and road markings.
3. Ensure adequate lighting is provided for stairwells, walkways, and parking lots.
4. Consider mounting document holders outside offices so workers can leave documents in them, rather than slipping papers under the door.
5. Report unsafe conditions to Plant Engineering's Customer Service so they can make the necessary repairs.

Where to Get Help and More Information

Document 11.2, "Hazards—General and Miscellaneous," in the ES&H Manual at:
http://www.llnl.gov/es_and_h/hsm/doc_11.02/doc11-02.html

Other LLNL Lessons Learned. Go to the "ES&H Program at LLNL" web page at esh. Click on "Lessons Learned," select the Lessons Learned topic of interest or click on "Search" and enter the desired search term.

Search Categories: Construction/Equipment/Working Surfaces; Worker Capability/Motion.